

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

(Attorney Docket No. 006401.00371)

In re U.S. Patent Application of	)	
Wang et al.	)	
	)	
Application No.: 09/863,928	)	
	)	Group Art Unit: 1732
Filed: May 23, 2001	)	
	)	Examiner: Monica A. Huson
For: COLD WATER SOLUBLE	)	
EXTRUDED STARCH PRODUCT	)	Confirmation No. 1613
	)	
	)	

Commissioner of Patents  
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**REPLY BRIEF**

The Examiner's answer reveals the Examiner's fundamental misunderstanding of the law and her failure to comprehend the content of the cited references. The rejection must be reversed for several reasons.

**Nakatsuka Does Not Disclose or Suggest a Starch**

As stated in the appellant's Opening Brief, the Examiner continues to fundamentally misread the Nakatsuka reference. In her response to our argument, the Examiner looks at the title and abstract of Nakatsuka, and finds the word "starch" is mentioned. From this, she concludes that "the extruded composition is starch."

The Examiner has failed to understand Nakatsuka. In this reference, starch is extruded with protein and other materials to form a complex. This complex "is not a simple mixture," but rather "union has been established between both materials by chemical reaction, thus contributing to the improvement in

physical properties." This material is not a starch. Indeed, it is even unclear whether there is any carbohydrate structure at all.

Although the abstract and title use the term "starch," this is used to describe Nakatsuka's **starting material**, not the final product. With additional reference to Nakatsuka's abstract, the Examiner notes the disclosure of "a water-soluble, thermoplastic molding composition comprising a starch material, a neutral inorganic alkali salt of protein material . . . and other additives." She concludes that Nakatsuka thus "clearly" discloses a starch. Again, this passage discloses the composition **prior to extrusion**. Upon extrusion, this molding composition is transformed into the starch-protein complex.

The Examiner states "applicant contends that Nakatsuka does not state that the starch alone is extruded, however, this is not claimed." What the Examiner fails to understand is that Nakatsuka does not disclose an extruded starch at all. Nakatsuka instead discloses a complex in which "union has been established" between starch and protein. Because Nakatsuka fails to teach an extruded starch product, Nakatsuka is not usable in a Section 103 rejection.

#### **Nakatsuka Fails To Disclose or Suggest the Claimed Solubility**

Nakatsuka is deficient for a second, independent reason. As stated in Appellant's opening brief, Nakatsuka fails to disclose the extent of solubility of the disclosed "complex." The Examiner concedes that "there is no percentage attached to 'water soluble' in the table (e.g., 90%, 100%)," but nonetheless concludes that "'water soluble' refers to 100%." The Examiner is simply wrong. Nakatsuka's data cannot be read to require 100% solubility, because Nakatsuka specifically discloses that the degree of solubility is not 100%. Nakatsuka discloses one embodiment in which the product was said to swell, not to dissolve. Nakatsuka further teaches (column 10, lines 37-56) that a material may be added to vary the degree of solubility of the product. If the degree of solubility were always 100%, as the Examiner asserts, why would Nakatsuka then teach a product that does not dissolve? Why does Nakatsuka teach that a material may be added to vary the degree of solubility? Not surprisingly, the Examiner offers no response.

Because Nakatsuka fails to disclose the solubility of the material, Nakatsuka fails to disclose or suggest the limitations of the subject claims.

#### **As the Examiner Concedes, Nakatsuka Fails to Teach Multiple Zones**

As argued in Appellant's opening brief, Nakatsuka does not teach an extruder having two zones, the conditions in the first zone being insufficient to gelatinize the starch but the conditions in the second zone being sufficient.

Of course, the material proposed by Nakatsuka is not a starch, and it is unclear whether the term "gelatinization temperature" is applicable.<sup>1</sup> Even the Examiner concedes that "the specific gelatinization temperature for Nakatsuka's particular starch material is not known." This does not prevent the Examiner, though, from concluding that Nakatsuka's material gelatinizes in the second zone but fails to gelatinize in the first zone.

Again, the Examiner is simply wrong. It is not possible to determine anything about the nature of the gelatinization in Nakatsuka's multiple zones. The Examiner herself concedes that she does not know the gelatinization temperature of Nakatsuka's material. Indeed it is not clear whether Nakatsuka's material has a gelatinization temperature or is even *capable of gelatinization*. Since Nakatsuka does not disclose a starch, what would it mean for this material to "gelatinize"? How could anyone conclude that the extrusion does not occur in the first zone but does occur in the second? In any case, Nakatsuka does not disclose or suggest the claimed extruder conditions.

The Examiner cites general gelatinization temperatures for starch, but this is unavailing. The Examiner fails to assert why, or how, these teachings are supposed to apply to the starch-protein complex of Nakatsuka.

#### **The Altieri Reference Cannot be Used to Reject the Present Claims**

The claims are patentable for the reasons explained above. The claims are also patentable because the Altieri reference is not useful in rejecting the present claims.

It is well settled that an Examiner may not pick and choose details from among disparate references to weave together a Section 103 rejection. See, e.g., *In re Fritch*, 972 F.2d 1260 (Fed. Cir 1992) ("One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention"). Yet this is exactly what has happened here, and the Examiner

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<sup>1</sup> The "gelatinization temperature" of a starch is the temperature at which the starch granule begins to lose its crystalline structure and become amorphous.

expressly concedes this. The Examiner has relied on one part of Altieri while ignoring the overall teachings of the Altieri reference.

As stated in Appellant's opening brief, the claims specify that the starch that is provided to the extruder is a granular starch that has a particle size distribution such that at least 90% by weight of the starch particles pass through a 180 microns screen. Altieri teaches away from this claim limitation, because Altieri requires a larger starch size.

What is the Examiner's response? The Examiner concludes that "although Altieri may use a starch having different particle size, his teachings regarding barrel moisture would reasonably apply to other starch-extrusion processes independent of the other particle size usages." In other words, argues the Examiner, she is free to ignore the part of Altieri that teaches directly away from the claimed invention. She believes that she is free to ignore the teachings of this reference as applied to the invention as a whole. Instead, she thinks that the law permits her to choose the specific feature of Altieri she finds necessary to support the claim rejection, while discarding the contrary teachings of the reference. The Examiner's approach is fundamentally wrong as a matter of law, and the rejection requires reversal. When the teachings of Altieri are considered without the benefit of hindsight, it is immediately evident that Altieri teaches away from the present invention.

#### **The Redding Jr. Reference is Incompatible with Nakatsuka**

The Examiner makes a similar error in trying to combine the Redding Jr. and Nakatsuka references. As stated in the Appellant's opening Brief, Nakatsuka is concerned with a starch that is heavily modified to form an undefined complex with protein. Redding, on the other hand, teaches that chemical starch modification is undesirable and should be avoided. Indeed, an object of the Redding invention is to provide "a cost effective and an energy efficient method of physical modification of starch and other substrates **without the necessity of chemical additives** required by prior art processes." Thus, Redding teaches to avoid chemical modification of starch, while chemical modification of starch is the sole purpose of Nakatsuka. These references are fundamentally incompatible.

What is the Examiner's response? "[A]lthough Redding, Jr. may prefer to use unmodified starches in his extrusion process, his teachings regarding starch particle size would be reasonably applied to other

starch-extrusion processes independent of starch modification properties of other processes." Again, the Examiner acknowledges that she is ignoring the overall purpose of the Redding, Jr. reference and the overall incompatibility of this reference with Nakatsuka. Instead, she selects specific teachings as she finds necessary to reject the claims. This is exactly the approach that the law forbids.

### **No Reference Shows a Seasoning Adherence Solution**

As earlier stated, Nakatsuka discloses a shaped article said to be useful as a *packaging material*. Nakatsuka fails to disclose forming any kind of solution from this material, much less a seasoning adherence solution.

What is the Examiner's response? The Examiner first points to this passage:

The present film of sheeting may be used as a release paper in baking and confectionary and does not need to be removed, because it is edible and can be integrated into the product.

What does this have to do with a seasoning adherence solution? This teaches an edible paper, not a seasoning adherence solution.

The Examiner then says "although Nakatsuka discloses that his extruded starch material can be used for packaging, this does not preclude the packaging as a seasoning adherent solution when it is integrated into the product." This argument makes no sense whatsoever. The Examiner concludes that because Nakatsuka fails to mention a seasoning adherence solution, the reference thereby somehow supports the claim rejection. This argument turns the law of obviousness upside down and is completely contrary to law.

Simply put, this rejection is unsupportable and must be reversed.

### **Conclusion**

In conclusion, the Examiner misunderstands both the cited art and the applicable law. Reversal is required.

Respectfully submitted,

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